

## IN THE CLAIMS

1-21. (Cancelled)

22. (Original) A method of forming a bottom electrode of a capacitor of a semiconductor device comprising:

forming a first insulation layer pattern having a first contact hole;

forming a contact plug in the first contact hole;

forming a second insulation layer pattern on the first insulation layer pattern, the second insulation layer pattern having a second contact hole exposing the contact plug and a portion of the first insulation layer pattern;

forming a protection layer on a sidewall of the second contact hole and on the portion of the first insulation layer pattern;

forming a conductive film for the bottom electrode continuously on the protection layer and on the contact plug;

removing the second insulation layer pattern; and

partially removing the protection layer so that a portion of the protection layer remains near the contact plug.

23. (Original) The method of claim 22, wherein the first insulation layer pattern has a first etching rate that is smaller than a second etching rate of the second insulation layer pattern.

24. (Original) The method of claim 23, wherein the first insulation layer pattern comprises a BPSG film including about 3.5 to 4.5% by weight of boron and about 3.3 to 3.7% by weight of phosphorous, and the second insulation layer pattern comprises a BPSG film including about 2.3 to 2.7% by weight of boron and about 2.25 to 2.65% by weight of phosphorous.

25. (Original) The method of claim 22, further comprising:  
performing a first cleaning process after forming the first insulation layer pattern; and  
performing a second cleaning process after forming the second insulation layer pattern.

26. (Original) The method of claim 25, wherein performing a first cleaning process and performing a second cleaning process comprise:

performing a process chosen from the group consisting of a cleaning process using a standard cleaning 1 (SC-1) solution, a cleaning process using a hydrogen fluoride (HF) solution, or a cleaning process sequentially using the standard cleaning 1 (SC-1) solution and the hydrogen fluoride (HF) solution.

27. (Original) The method of claim 22, further comprising:  
forming a spacer on a sidewall of the first contact hole.

28. (Original) The method of claim 27, wherein forming the spacer on the sidewall of the first contact hole comprises:

forming a spacer on the sidewall and a bottom face of the first contact hole and on the first insulation layer pattern, wherein the spacer comprises a film chosen from the group consisting of a silicon nitride film, an oxide film, and a composite film that includes a silicon nitride film and an oxide film; and  
etching the spacer.

29. (Original) The method of claim 22, further comprising:  
forming an etch stop layer on the first insulation layer pattern and on the contact plug.

30. (Original) The method of claim 29, wherein forming the etch stop layer comprises:

forming a film chosen from the group consisting of a silicon nitride film, an oxide film, and a composite film that includes a silicon nitride film and an oxide film.

31. (Original) The method of claim 30, further comprising:  
removing the etch stop layer.

32. (Currently amended) The method of claim 31, wherein removing the etch stop layer comprises:

removing the etch stop layer with a wet etching process that uses a phosphoric acid solution if the etch stop layer comprises the silicon nitride film;

removing the etch stop layer with a wet etching process that uses a ~~LAL solution~~ fluorine-containing solution if the etch stop layer comprises the oxide film; and

removing the etch stop layer with a wet etching process that sequentially uses the phosphoric acid solution and the ~~LAL solution~~ fluorine-containing solution if the etch stop layer comprises the composite film.

33. (Original) The method of claim 22, wherein forming a protection layer comprises:

forming a film chosen from the group consisting of a silicon nitride film, an aluminum oxide film, and a composite film that includes a silicon nitride film and an aluminum oxide film.

34. (Currently amended) The method of claim 33, wherein partially removing the protection layer comprises:

partially removing the protection layer with a wet etching process that uses a phosphoric acid solution if the protection layer comprises the silicon nitride film;

partially removing the protection layer with a wet etching process that uses a LAL solution when the protection layer comprises the aluminum oxide film;

partially removing the protection layer with a wet etching process that sequentially uses the phosphoric acid solution and the ~~LAL solution~~ fluorine-containing solution if the protection layer comprises the composite film.

35. (Original) The method of claim 22, wherein forming a second insulation layer pattern comprises forming the second insulation layer pattern with a process chosen from the group consisting of a dry etching process and a wet etching process.

36. (Currently amended) The method of claim 24, wherein removing the second insulation layer pattern comprises removing the second insulation layer pattern with a wet etching process that uses a ~~LAL solution~~ fluorine-containing solution.

37. (Original) The method of claim 23, further comprising:

forming a third insulation layer with a third etching rate on the second insulation layer pattern, wherein the third etching rate is less than the second etching rate; and

forming a third insulation layer pattern having a third contact hole exposing a portion of the second insulation layer pattern where the second contact hole is formed by etching the third insulation layer, wherein a critical dimension of the third contact hole is smaller than a critical dimension of the second contact hole in accordance with an etching rate difference between the third etching rate and the second etching rate.

38. (Original) The method of claim 37, wherein forming a third insulation layer comprises forming a TEOS layer.

39. (Original) The method of claim 37, wherein forming a third insulation layer pattern comprises using a process chosen from the group consisting of a dry etching process and a wet etching process.

40. (Original) The method of claim 38, further comprising:  
removing the third insulation layer pattern.

41. (Currently amended) The method of claim 40, wherein removing the third insulation layer pattern comprises:

removing the third insulation layer pattern with a wet etching process that uses a ~~LAL~~  
solution fluorine-containing solution.

42. (Withdrawn) A bottom electrode of a capacitor of a semiconductor device comprising:

a contact plug formed on a substrate;

a node formed on the contact plug; and

a protection layer pattern formed near the contact plug, wherein the contact plug is electrically connected to the node, and the protection layer pattern prevents an electrical connection between the contact plug and an adjacent contact plug.

43. (Withdrawn) The bottom electrode of claim 42, wherein the protection layer pattern comprises a film chosen from the group consisting of a silicon nitride film, an aluminum oxide film, and a composite film that includes a silicon nitride film and an aluminum oxide film.

44. (Withdrawn) The bottom electrode of claim 42, wherein the node has a cylindrical shape.

45. (Withdrawn) The bottom electrode of claim 42, wherein the node comprises an upper node and a lower node, and wherein a critical dimension of the lower node is larger than a critical dimension of the upper node.